

CLAIMS

What is claimed is:

1. In a portable computer system comprising a digital signal
5 processor (DSP) and a main processor, a method for establishing a wireless
connection between said portable computer system and a wireless network,
said method comprising the steps of:

a) scanning a plurality of broadcast channels used by said wireless
network, wherein said step of scanning is performed under direction of said
10 DSP while said main processor is in a low power mode;

b) determining whether a broadcast channel is acceptable for said
wireless connection, wherein said step of determining is executed by said DSP
while said main processor remains in said low power mode;

c) waking up said main processor provided a broadcast channel
15 acceptable for said wireless connection is identified; and

d) identifying to said main processor said broadcast channel acceptable
for said wireless connection.

2. The method as recited in Claim 1 wherein step b) comprises the
20 step of:

b1) comparing to a threshold a measure of signal strength of a signal
received over said broadcast channel, wherein said threshold is for defining a
signal strength acceptable for said wireless connection.

3. The method as recited in Claim 2 further comprising the steps of:
identifying a number of broadcast channels acceptable for said wireless
connection; and
sorting said number of broadcast channels according to their respective
5 measure of signal strength.

4. The method as recited in Claim 3 further comprising the steps of:
e) selecting from said number of broadcast channels a broadcast
channel having the highest measure of signal strength; and
10 f) establishing said wireless connection using said broadcast channel
selected in said step e), wherein said step of establishing is performed under
direction of said main processor.

5. The method as recited in Claim 1 wherein said step a) further
15 comprises the step of:
a1) disregarding certain broadcast channels used by said wireless
network.

6. The method as recited in Claim 1 wherein said wireless network is
20 a Mobitex wireless communication system.

7. The method as recited in Claim 1 wherein said step c) further
comprises the step of:
c1) repeating said steps a) and b) at periodic time intervals until said
25 broadcast channel acceptable for said wireless connection is identified.

8. The method as recited in Claim 1 wherein said step a) is automatically initiated when a previously established wireless connection between said portable computer system and said wireless network is lost.

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9. The method as recited in Claim 1 wherein said step a) is automatically initiated when said portable computer system is powered on and an acceptable broadcast channel for said wireless connection is not acquired.

10. A portable computer system comprising:
a bus;
a wireless transceiver coupled to said bus;
a main processor coupled to said bus; and
a digital signal processor (DSP) coupled to said bus, said DSP for
executing a method for establishing a wireless connection between said
portable computer system and a wireless network, said method comprising the
steps of:

a) scanning a plurality of broadcast channels used by said wireless
network, wherein said step of scanning is performed while said main processor
is in a low power mode;

b) determining whether a broadcast channel is acceptable for said
wireless connection, wherein said step of determining is executed while said
main processor remains in said low power mode;

c) waking up said main processor provided a broadcast channel
acceptable for said wireless connection is identified; and

d) identifying to said main processor said broadcast channel acceptable for said wireless connection.

11. The portable computer system of Claim 10 wherein said step b) of said method comprises the step of:

b1) comparing to a threshold a measure of signal strength of a signal received over said broadcast channel, wherein said threshold is for defining a signal strength acceptable for said wireless connection.

12. The portable computer system of Claim 11 wherein said method further comprises the steps of:

identifying a number of broadcast channels acceptable for said wireless connection; and

sorting said number of broadcast channels according to their respective measure of signal strength.

13. The portable computer system of Claim 12 wherein a broadcast channel having the highest measure of signal strength is selected from said number of broadcast channels and used for said wireless connection.

14. The portable computer system of Claim 10 wherein said step a) of said method further comprises the step of:

a1) disregarding certain broadcast channels used by said wireless network.

15. The portable computer system of Claim 10 wherein said wireless network is a Mobitex wireless communication system.

5 16. The portable computer system of Claim 10 wherein said step c) of said method further comprises the step of:

c1) repeating said steps a) and b) at periodic time intervals until said broadcast channel acceptable for said wireless connection is identified.

10 17. The portable computer system of Claim 10 wherein said step a) of said method is automatically initiated when a previously established wireless connection between said portable computer system and said wireless network is lost.

15 18. The portable computer system of Claim 10 wherein said step a) of said method is automatically initiated when said portable computer system is powered on and an acceptable broadcast channel for said wireless connection is not acquired.

20 19. In a portable computer system comprising a digital signal processor (DSP) and a main processor, a method for establishing a wireless connection between said portable computer system and a wireless network, said method comprising the steps of:

25 a) scanning a plurality of broadcast channels used by said wireless network, wherein said step of scanning is performed under direction of said

DSP while said main processor is in a low power mode and wherein said step of scanning is automatically initiated in response to a triggering event;

b) said DSP comparing to a threshold value a measure of signal strength of each signal received over said plurality of broadcast channels,

5 wherein said threshold is for defining a signal strength acceptable for said wireless connection;

c) said DSP waking up said main processor provided a broadcast channel acceptable for said wireless connection is identified, and otherwise said DSP repeating said steps a) and b) until a broadcast channel acceptable
10 for said wireless connection is identified; and

d) said DSP identifying to said main processor said broadcast channel acceptable for said wireless connection.

20. The method as recited in Claim 19 wherein said step b) comprises
15 the steps of:

b1) said DSP identifying a number of broadcast channels acceptable for said wireless connection; and

b2) said DSP ranking said number of broadcast channels according to their respective measure of signal strength.

20 21. The method as recited in Claim 20 wherein said method further comprises the steps of:

e) said main processor selecting from said number of broadcast channels a broadcast channel having the highest measure of signal strength;

25 and

f) said main processor establishing said wireless connection using said broadcast channel selected in said step e).

22. The method as recited in Claim 19 wherein certain broadcast
5 channels used by said wireless network are disregarded.

23. The method as recited in Claim 19 wherein said wireless network
is a Mobitex wireless communication system.

10 24. The method as recited in Claim 19 wherein said triggering event is
loss of a previously established wireless connection between said portable
computer system and said wireless network.

15 25. The method as recited in Claim 19 wherein said triggering event is
lack of acquisition of a broadcast channel for said wireless connection when
said portable computer system is powered on.